REMARKS/ARGUMENTS

By this amendment, claims 11-32 are pending, in which claims 1-10 are canceled without prejudice or disclaimer and claims 11-32 are newly presented. No new matter is introduced.

The Office Action mailed November 3, 2004 objected to the drawings and specification and rejected claims 7-9 under 35 U.S.C. § 101 as directed to non-statutory subject matter, and claims 1-10 as obvious under 35 U.S.C. § 103 based on *Apte et al.* (US 6,253,169) in view of *Hazlehurst* (US 5,974,412).

Applicant appreciates and graciously thanks the Examiner for extending courtesy to the Applicant's request for an interview. Examiner granted an interview for Thursday, April 14, 2005. Applicant faxed a draft response to the Office Action to the Examiner for review. During the interview, the Examiner and Applicant discussed objections to the specification, 35 USC 101 rejection, 35 USC 103 rejection based on prior art of *Hazlehurst et al.* US Patent 5,964,412 and *Apte et al.*, US Patent 6,253,169, and claims. Examiner agreed that proposed amendments to the specification would overcome objections to the drawings and the specification. Examiner agreed that proposed amendments to claims 7-9 would overcome rejections previously made under 35 USC 101. Examiner graciously discussed proposed amendments to the claims with suggestions to make them more clearly describe the applicant's invention. Agreement was not reach with respect to the claims.

In response to the objection to the drawings and specification, the specification is amended as agreed to. Drawing 1 is objected to as not complying with 37 CFR 1.84(p)(5)

because it does not include reference signs referred to in the description. Drawing 1 was erroneously referred to in the specification when Drawing 2 was intended. The specification is amended to refer to the correct reference signs in Drawing 2 thereby removing the use of reference signs not in Drawing 1. Thus, applicant respectfully requests the Examiner to remove the 37 CFR 1.84(p)(5) objection to Drawing 1.

The disclosure is objected to because it recites reference signs not shown in Drawing 1. The specification is amended to correct the use of reference signs in Drawing 1 when Drawing 2 was meant. The specification as amended correctly refers to reference signs in Drawing 2 rather than Drawing 1. Thus, applicant respectfully requests the Examiner to remove the objection to the disclosure.

Trademarks used in the application are noted as not being capitalized and accompanied by generic terminology. The specification is amended to capitalize trademarks and accompany them with generic terminology.

The rejections of claims 7-9 as directed to non-statutory subject matter and of claims 1-10 for obviousness are moot in light of their cancellation.

Nevertheless, new claims 11-32 are non-obvious over *Apte et al.* in view of *Hazlehurst* because the applied references—either individually or in combination—fail to teach or otherwise suggest the features of claims 11-32. For example, independent claims 11 and 21 recites: "accessing the symbolic representations pertaining to the domain of endeavor **to detect a symbol**

contained within the symbolic representations **that had been previously identified as not being found within a base lexicon of symbols associated with the domain of endeavor**."

Independent claim 31 recites: "if the instance of the symbol is **not found in the base lexicon** of symbols associated with the domain of endeavor, then performing the steps of ... ." The independent claims also sets forth that data are accumulated indicative of the spread of multiple occurrences of this feature throughout the domain of endeavor and determining whether the spread exceeds a threshold, and if so, output an indication "that a new idea within the domain of endeavor has been detected." These features are not found in either *Apte et al.* or *Hazlehurst.*, individually or in combination.

Apte et al. is directed to improving the accuracy of decision-based text categorization (Abstract). *Apte et al.*, (column 3, lines 2-18) lists the four objectives of its system which are 1) "provide a computer-implemented text categorization method which classifies electronic documents in a database more efficiently ...than conventional methods", 2) "...by developing a single pooled dictionary for a sample set of documents by combining local dictionaries separately developed for each of a plurality of topics disclosed in the documents...", 3) "...uses the pooled dictionary to form a decision tree...", and 4) "...to enhance the accuracy of the decision tree model." There is no indication that *Apte* intends or foresees any use of the system to output indications that a new idea has been detected, but rather to train his classifier on a set of documents and use that categorization to classify other documents.

Apte further states, col. 3, lines 26-33:

> The classifying step itself has a number of steps, including analyzing words in the documents of the sample set to identify a plurality of topics, developing a plurality of

> local dictionaries each containing words descriptive of a respective one of the topics, and developing vectors for each of the documents in the sample set, with the vectors developed for each document being indicative of words in a respective one of the local dictionaries.

It is clear that "analyzing words to identify topics" is not the same as determining whether a topic is a new idea. *Apte*'s intent is to create categories based on a training set and then to sort documents based on this classification. There is no place in *Apte* where the method is used to determine whether a topic is unique, novel, or new. In fact, item **30** of Fig. 3 shows "Identifying words in the new document which correspond to words in the local dictionaries (or pooled dictionary)" It is placed in the closest predefined category as shown in **33** of Fig 3. There is no provision for what to do with words which are not in the dictionary which is developed from the training set. There is, in fact, no way to identify these outliers. By contrast, independent claims 11, 21, and 31 recite: "a symbol contained within the symbolic representations that had been previously identified **as not being found within a base lexicon** of symbols associated with the domain of endeavor."

Hazlehurst too fails to teach or suggest these features and, in fact, teaches against them. For example, *Hazlehurst*, col. 7, lines 42-52, states:

> A document transport and processing system comprises slurpees **90** that filter unwanted information and convert documents to a standard format. Unwanted information includes indecipherable bit patterns and invalid words, duplicate documents, and information from irrelevant domains. For example, geological data are blocked from entering a storage system **60** concerned primarily with medical information.

Thus, to the extent that *Hazlehurst* is even aware of symbols "not being found within a base lexicon of system associated with the domain of endeavor," those systems are filtered out as "unwanted information," "indecipherable bit patterns," and "invalid words." Therefore, *Hazlehurst* **strongly teaches against** doing anything with this "unwanted information,"

including accumulating data for it or outputting indications "that a new idea within the domain of endeavor has been detected." *Hazlehurst* discards what the applicant's claims include.

Furthermore, *Hazlehurst* states in column 17, lines 66-67 and column 18, lines 1-10:

> Referring to FIG. 12A, the constant growth and reproduction of collators **108** causes the population to continuously evolve to both focus on specific concepts and identify new concepts. Collators **108** evolve to become better recommenders of documents containing concepts of interest to users **86**. Collators **108** which attract popular documents are allowed to reproduce, while collators whose documents fail to interest users **86** are killed off **162**. This selection process is accomplished by use of fitness criteria. The reproduction of popular collators **108** means that the collator vector spaces **132** (FIG.9) which enabled them to succeed at delivering preferred documents will improve over time.

A study of FIG. 12A in Hazlehurst shows no direct connection between the birth **156** and the user **86** which informs him of new ideas. The only interaction user **86** has with the collator life cycle process **164** is through document queries.

The "new concepts" referred to by *Hazlehurst* are not new ideas nor are indicated as such in output, but rather simply new ways of finding related information in documents and are nothing more than a processing of the user's **86** queries in order to find the user's interest. In fact, *Hazlehurst* says above that the "Collators **108** evolve to become better recommenders of documents containing concepts of interest to users **86**." The words "new concept" must be interpreted in the sense of these "concepts of interest to the user" rather than concepts that the user knows nothing about which are the applicant's claimed "new ideas."

Hazlehurst states in column 18, lines 39-44,

> Every document which comes in to the IQE system **84** must find a home in some collator's corpus of documents. This forced acceptance ensures that all documents are potentially available for viewing.

If a document is "forced" to be in an existing collator's corpus, then the collators don't create or identify new ideas to accommodate them but rather modify themselves to reflect the associations which the user sees in the documents. Again, the collators reflect an analysis of the user's preferences rather than the generic idea of a new idea which is in contrast to the applicant's invention.

Hazlehurst states in the SUMMARY OF THE INVENTION, column 1, lines 64-67, and column 2, lines 1-9,

> An Intelligent Query Engine (IQE) system automatically develops multiple information spaces in which different types of real-world objects (e.g., documents, users, products) can be represented. The system then delivers information to users based upon similarity measures applied to the representation of the objects in these information spaces. The system simultaneously classifies documents, users, products, and other objects. Any object which can be related to or represented by a document (a chunk of text) can participate in the information spaces and can become the target of similarity metrics applied to the spaces. The system automatically indexes large quantities of documents in a database.

It is clear from this statement that the *Hazlehurst* invention categorizes an existing database in order to "delivers information to users based on similarity measures", NOT the fact of being previously identified as not being found within a base lexicon as claimed in the applicant's application.

There is nothing in either of the references that would suggest that the motivation for combining the references is known outside of applicant's disclosure. In particular, there is not the slightest hint in either *Apte* or *Hazlehurst* of using their claimed methodology to perform the features as they are presented in Applicant's claim 11. Both *Apte* and *Hazlehurst* are directed at automated methods for categorizing contents of databases and/or the users such that the contents

are accessed more efficiently. Both references depend on obtaining a set of documents from which categories are defined and then using different methods to assign a document which is not part of the training set into one of these categories. Both references force the assignment of a document to one of the trained classifications. Neither method discloses or even suggests that the methodology might be used to discover or even output indications of new ideas that have not already been discovered in the training set. In fact, the concept of finding or even outputting indications of new ideas that do not exist in the documents in the training set is counter to the stated purpose of these two references which seek to classify documents into *a priori* categories.

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings.

The remaining prior art references of record do not anticipate the present application. Applicant also thanks the Examiner for his consideration of **Schramm,** US pat. No. 4,670,848, "Artificial intelligence system", **Orita** *et al.*, US pat. No. 4,682,365, "System and method for preparing a recognition dictionary", **Woods,** US pat. No. 5,724,571, "Method and apparatus for generating query responses in a computer-based document retrieval system", **Huffman,** US pat. No. 5,841,895, "Method for learning local syntactic relationships for use in example-based information-extraction-pattern learning", **Wacholder,** US pat. No. 6,167,368, "Method and system for identifying significant topics of a document", **Woods,** US pat. No. 6,282,538, "Method and apparatus for generating query responses in a computer-based document retrieval system", **Hazlehurst** *et al.*, US pat. No. 6,289,353, "Intelligent query system for automatically

indexing in a database and automatically categorizing users", **Knight** *et al.*, US pat. No. 6,493,703, "System and method for implementing intelligent online community message board", **Knight**, US pat. No. 6,515,681, "User interface for interacting with online message board", **Knight** et al., US pat. No. 6,571,234, "System and method for managing online message board", **Woods**, US pat. No. 6,594,658, "Method and apparatus for generating query responses in a computer-based document retrieval system", **Smadja**, US pat. No. 6,621,930, "Automatic categorization of documents based on textual content", **August** *et al.*, US pat. No. 6,647,383, "System and method for providing interactive dialogue and iterative search functions to find information", **Knight** *et al.*, US pat. No. 6,721,748, "Online content provider system and method", **Green**, US pat. No. 6,741,985, "Document retrieval system and search method using word set and character look-up tables", **Cho** *et al.*, US pat. No. 6,741,986, "Method and system for performing information extraction and quality control for a knowledgebase", **Cho** *et al.*, US pat. No. 6,772,160, "Techniques for facilitating information acquisition and storage", **Knight** *et al.*, US pat. No. 6,778,982, "Online content provider system and method", **Knight** *et al.*, US pat. No. 6,804,675, "Online content provider system and method", **Wilcox**, *et al.*, 2002/0049792, "Conceptual content delivery system, method and computer program product", **Harris**, 2002/0059204, "Distributed search system and method", **Anderson**, 2002/0062243, "Method", and **Thompson** *et al.*, 2002/0103834, "Method and apparatus for analyzing documents in electronic form". However, Applicant believes that like **Apte** and **Hazlehurst**, these references do not anticipate the present invention.

CONCLUSION

Therefore, the present application, as amended, overcomes the objections and rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned at 703-250-0037 so that such issues may be resolved as expeditiously as possible.

Enclosed is a petition for an extension for time. The Commissioner is requested to grant a petition for that extension of time which is required to make this response timely. Enclosed please find PTO-2038 form authorizing the use of applicant's credit card to cover that request and other fees.

Respectfully submitted,

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Date

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